

Specification for release

Customer : _____
 Ordercode: **82400274**
 Description: **TVS Diode Array WE-TVS**
 Package: **SC70-6L**



DATUM / DATE : 2010-01-27

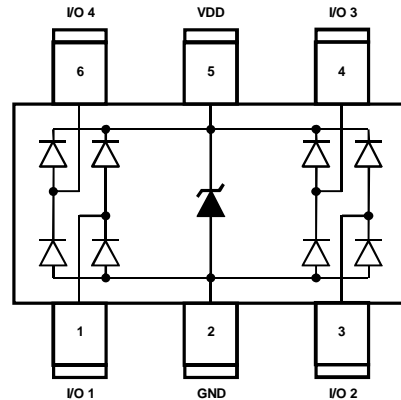
A Features:

- ESD Protection for 4 high-speed I/O channels and VDD
- Provide ESD protection for each channel to
 IEC 61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
 IEC 61000-4-4 (EFT) (5/50ns) 20A (I/O), 40A (VDD)
 IEC 61000-4-5 (Lightning) 6A (8/20 μs)
- Below 5V operating voltage: 2.5 - 3.3 - 4.2 - 5.0V
- Ultra Low capacitance: 1.2pF typical

Mechanical Characteristics:

- SC70-6L Package
- Molding compound flamability rating: UL94V-0
- Packaging: Tape & Reel

B Schematic and Pin Configuration:



C Absolute Maximum Ratings:

| | Symbol | Rating | Unit |
|---|---------------|--------------------------|--------------------|
| Peak Pulse Current (tp = 8/20 μs) | I_{PP} | 6 | A |
| Operating Supply Voltage, VDD to GND | V_{DC} | 6 | V |
| ESD per IEC 61000-4-2 (Air / Contact), I/O to GND | $V_{ESD,IO}$ | 16 / 12 | kV |
| ESD per IEC 61000-4-2 (Air / Contact), VDD to GND | $V_{ESD,VDD}$ | 16 / 12 | kV |
| DC Voltage at any I/O Pin | V_{IO} | (GND -0,5) to (VDD +0,5) | V |
| Operating Temperature | T_{Op} | -55 to +85 | $^{\circ}\text{C}$ |
| Storage Temperature | T_{Sto} | -20 to +60 | $^{\circ}\text{C}$ |

D Electrical Characteristics:

| Properties | Test Conditions | Value min | Value typ | Value max | Unit |
|--------------|--|-----------|-----------|-----------|---------------|
| V_{RWM} | Pin 5 to Pin 2 | | | 5 | V |
| V_{BV} | $I_{BV}=1\text{mA}$, Pin 5 to Pin 2 | 6.0 | | | V |
| I_R | $V_{Pin5}=5\text{V}$, Pin 5 to Pin 2 | | | 5 | μA |
| V_F | $I_F = 15\text{mA}$, Pin 2 to Pin 5 | | 0.8 | 1.0 | V |
| V_C | $I_{PP}=5\text{A}$, tp=8/20 μs , I/O to GND | | 8 | 9 | V |
| $V_{Cl,IO}$ | $I_{TLP} = 17\text{A}$, I/O to GND | | 12.5 | | V |
| $V_{Cl,VDD}$ | $I_{TLP} = 17\text{A}$, VDD to GND | | 9.0 | | V |
| C_{IO} | $V_{Pin5}=5\text{V}$, $V_{Pin2}=0\text{V}$, $V_{IO}=2.5\text{V}$, f=1MHz, I/O to GND | | 1.2 | 1.6 | pF |
| C_X | $V_{Pin5}=5\text{V}$, $V_{Pin2}=0\text{V}$, $V_{IO}=2.5\text{V}$ f=1MHz, between I/O pins | | 0.1 | 0.2 | pF |
| | | | | | |
| | | | | | |

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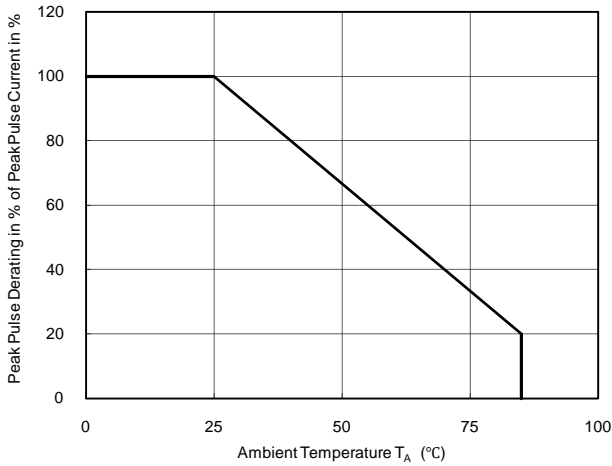
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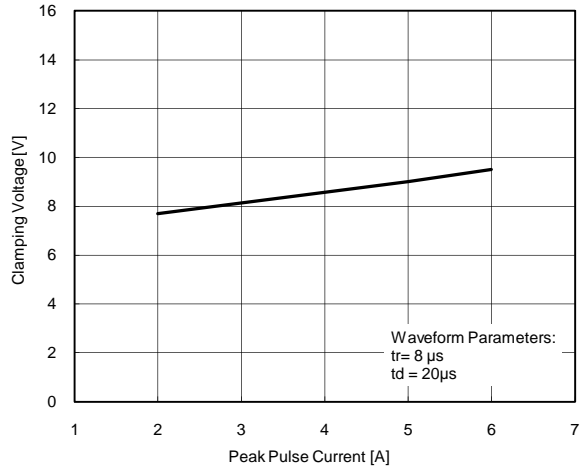


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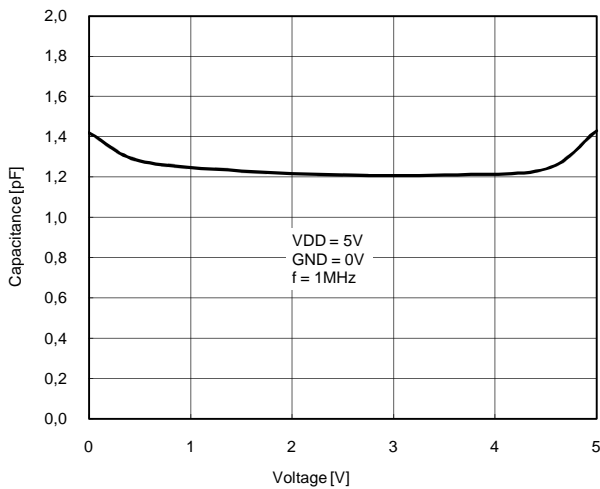
E Typical Characteristics:



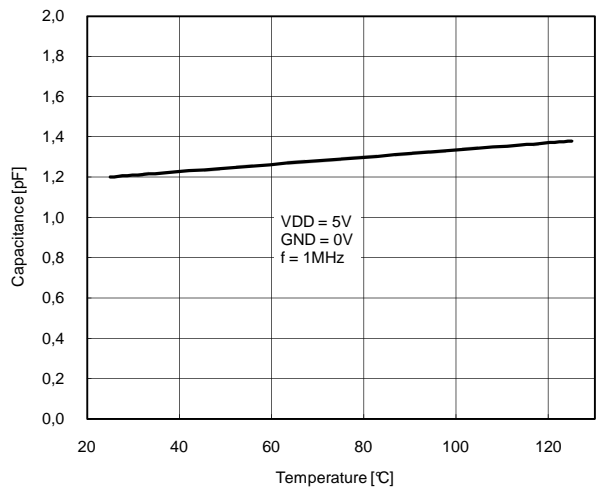
Power Derating Curve



I/O Clamping Voltage vs. Peak Pulse Current



Variation of C_{IO} vs. V_{IO}



Variation of C_{IO} vs. Temp.

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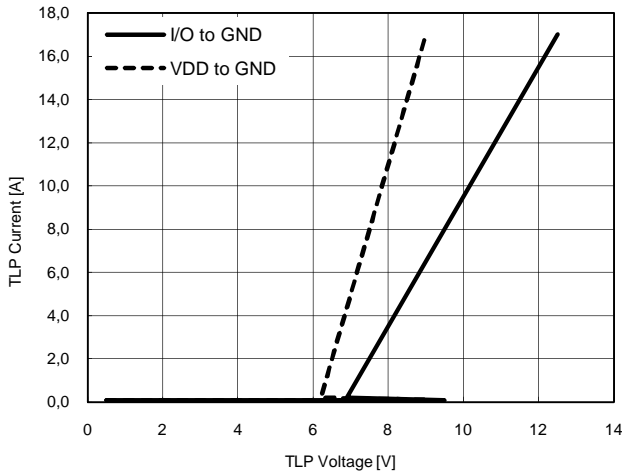
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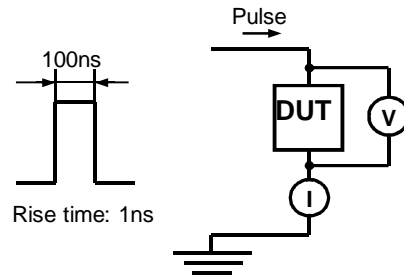
WÜRTH ELEKTRONIK

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E Typical Characteristic:

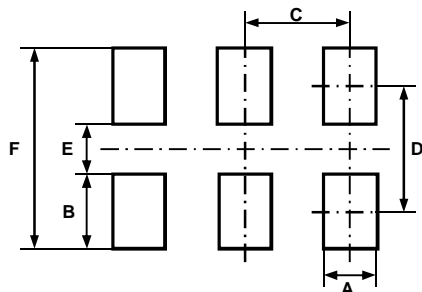


Transmission Line Pulsing (TLP) Measurement



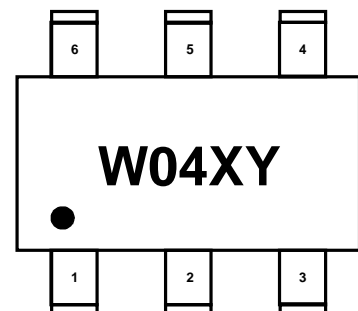
Transmission Line Pulsing System

F Recommended Land Layout:



| | | |
|---|------|----|
| A | 0.40 | mm |
| B | 0.85 | mm |
| C | 0.65 | mm |
| D | 1.85 | mm |
| E | 1.00 | mm |
| F | 2.70 | mm |

G Body Marking:



W04: Device Code

X: Date Code

Y: Control Code

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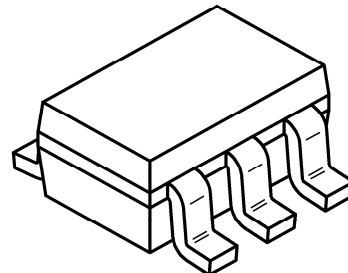
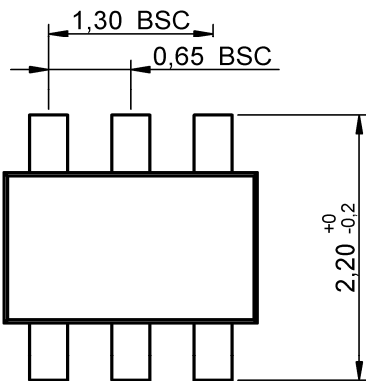
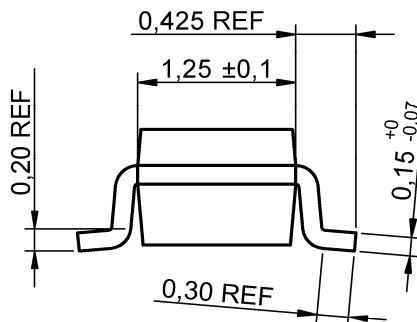
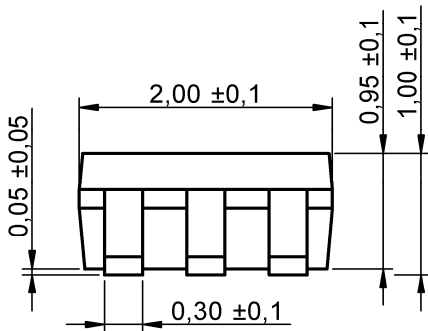
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H Dimensions:



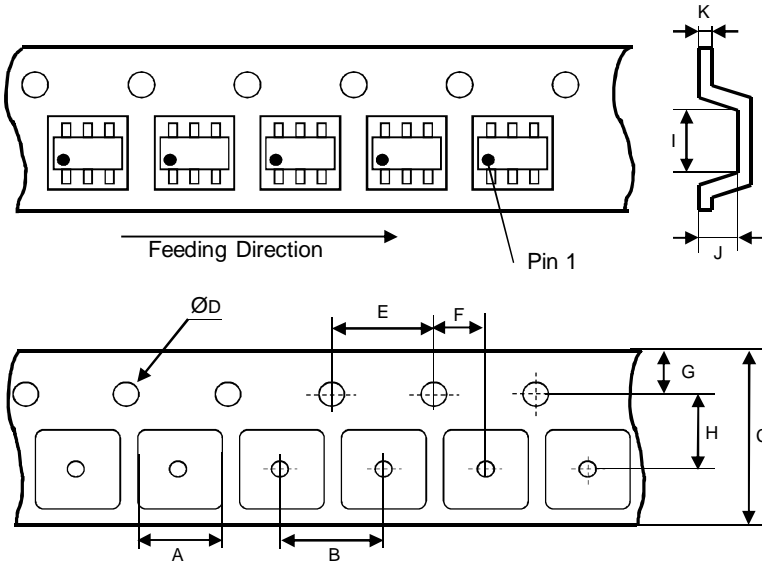
Scale - 10:1

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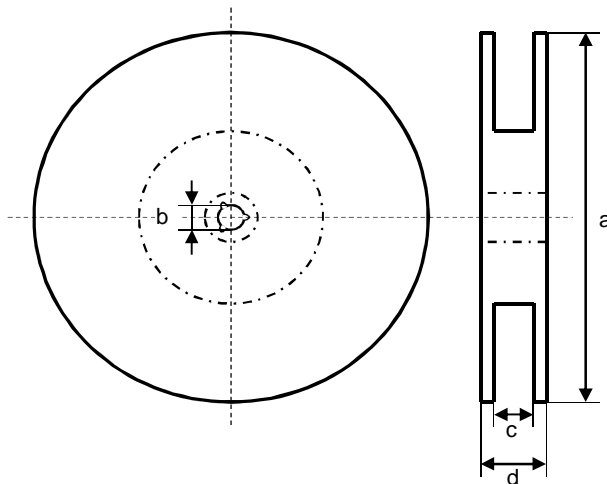


I Tape:

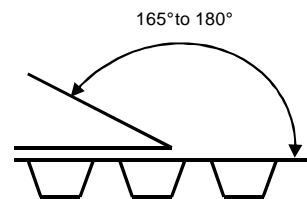


| | | |
|---|--------------------|----|
| A | 2.25 REF | mm |
| B | 4.00 ± 0.10 | mm |
| C | 8.00 ± 0.20 | mm |
| D | 1.55 ± 0.05 | mm |
| E | 4.00 ± 0.10 | mm |
| F | 2.00 ± 0.05 | mm |
| G | 1.75 ± 0.10 | mm |
| H | 3.50 ± 0.05 | mm |
| I | 2.4 REF | mm |
| J | 1.2 REF | mm |
| K | 0.30 ± 0.02 | mm |

J Reel:



| | | |
|---|--------------------|----|
| a | 178.0 ± 2.0 | mm |
| b | 13.0 ± 0.8 | mm |
| c | 10.0 ± 1.5 | mm |
| d | 12.5 ± 2.0 | mm |



Quantity per Reel: 3000

| | | | | |
|------------------|-------------------------|------|--------------|------------|
| General Release: | Customer | | | |
| | | | | |
| Date | Signature | | | |
| | Würth Elektronik | | | |
| | | | | |
| Checked | Approved | JB | Version 1 | 2010-01-27 |
| | | Name | Modification | Date |

This electronic component has been designed and developed for usage in general electronic equipment. Before incorporating this component into any equipment where higher safety and reliability is especially required or if there is the possibility of direct damage or injury to human body, for example in the range of aerospace, aviation, nuclear control, submarine, transportation, (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information network etc, Würth Elektronik eiSos GmbH must be informed before the design-in stage. In addition, sufficient reliability evaluation checks for safety must be performed on every electronic component which is used in electrical circuits that require high safety and reliability functions or performance.

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